

FIG. 1

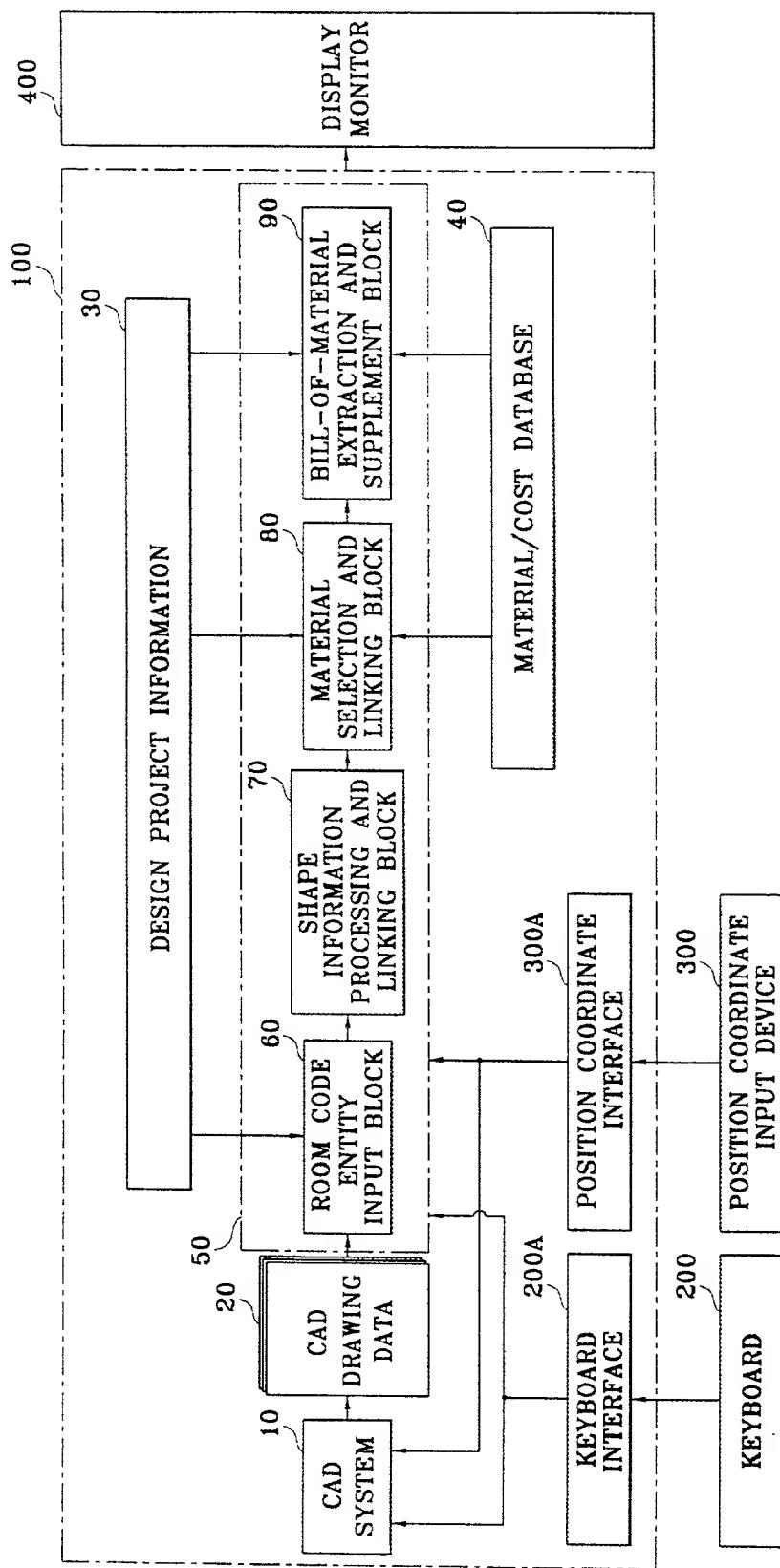


FIG.2

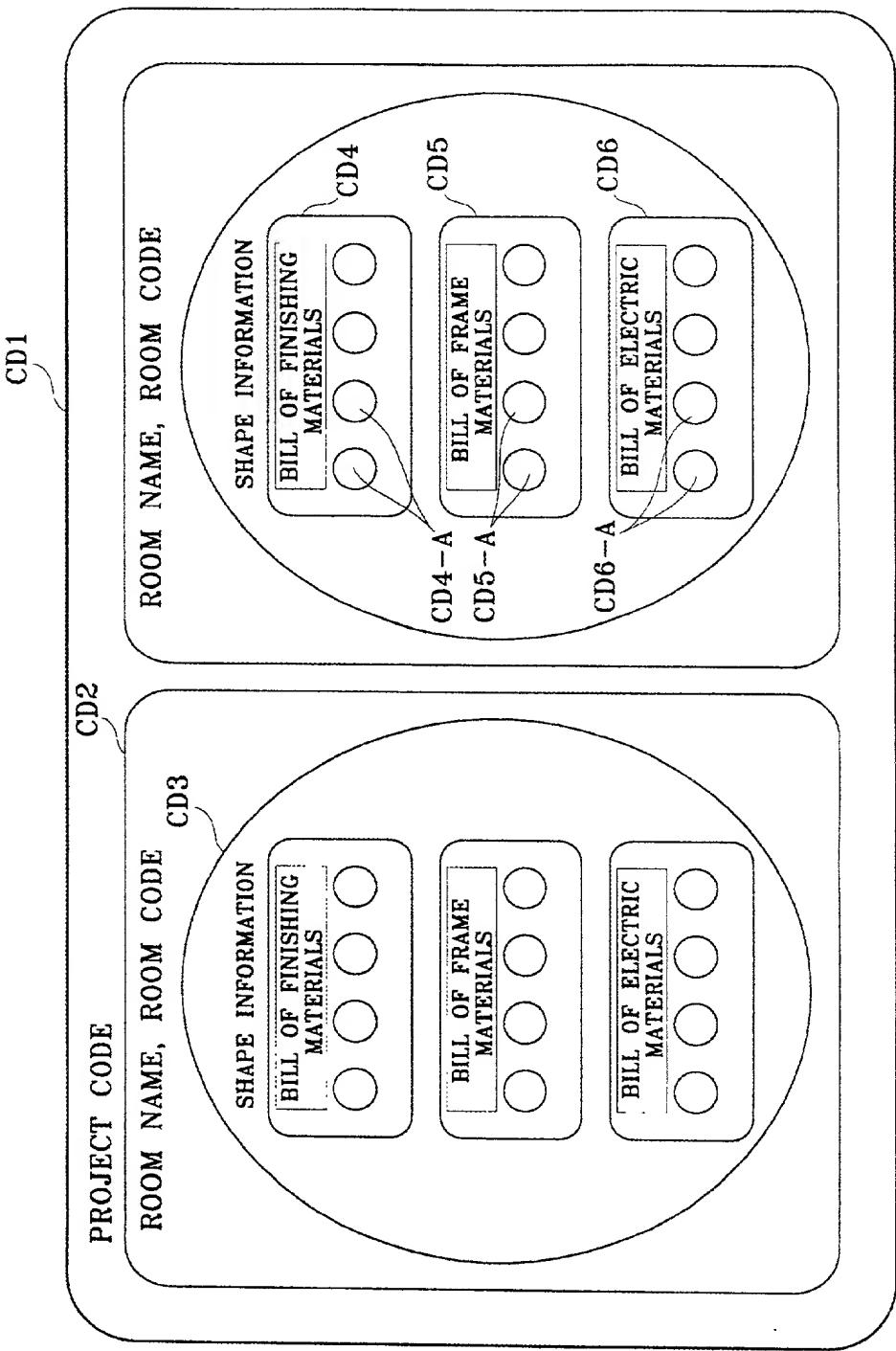
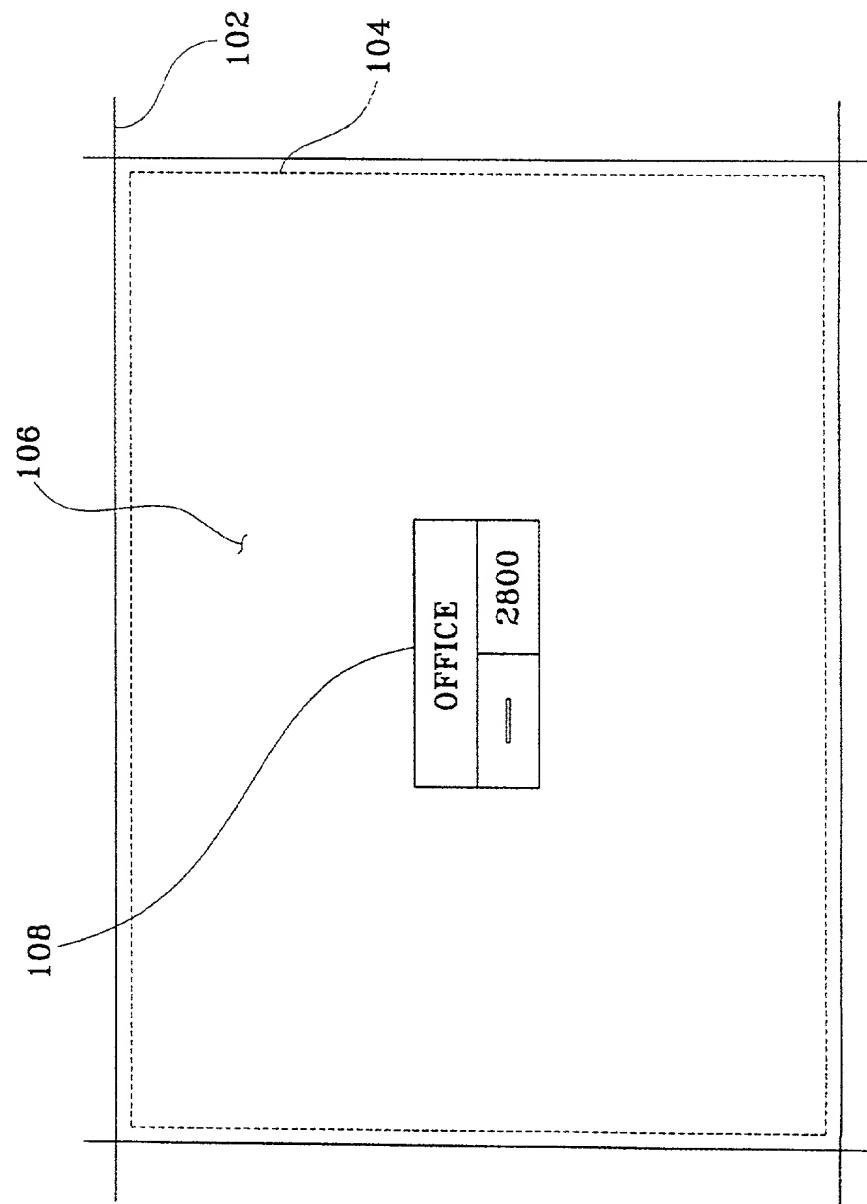


FIG.3a



Merchant & Gould P.C.
Sheet 3 of 17
Project No.: 612-336-4722
Architect Name: Curtis B. Hartre
INTERFACe
Title: SYSTEM AND METHOD FOR TAKE-OFF OF MATERIALS USING TWO-DIMENSIONAL CAD
Date: 07/10/94 201001
Sheet 3 of 17
Project No.: 612-336-4722
Architect Name: Curtis B. Hartre
INTERFACe
Title: SYSTEM AND METHOD FOR TAKE-OFF OF MATERIALS USING TWO-DIMENSIONAL CAD
Date: 07/10/94 201001

FIG.3b

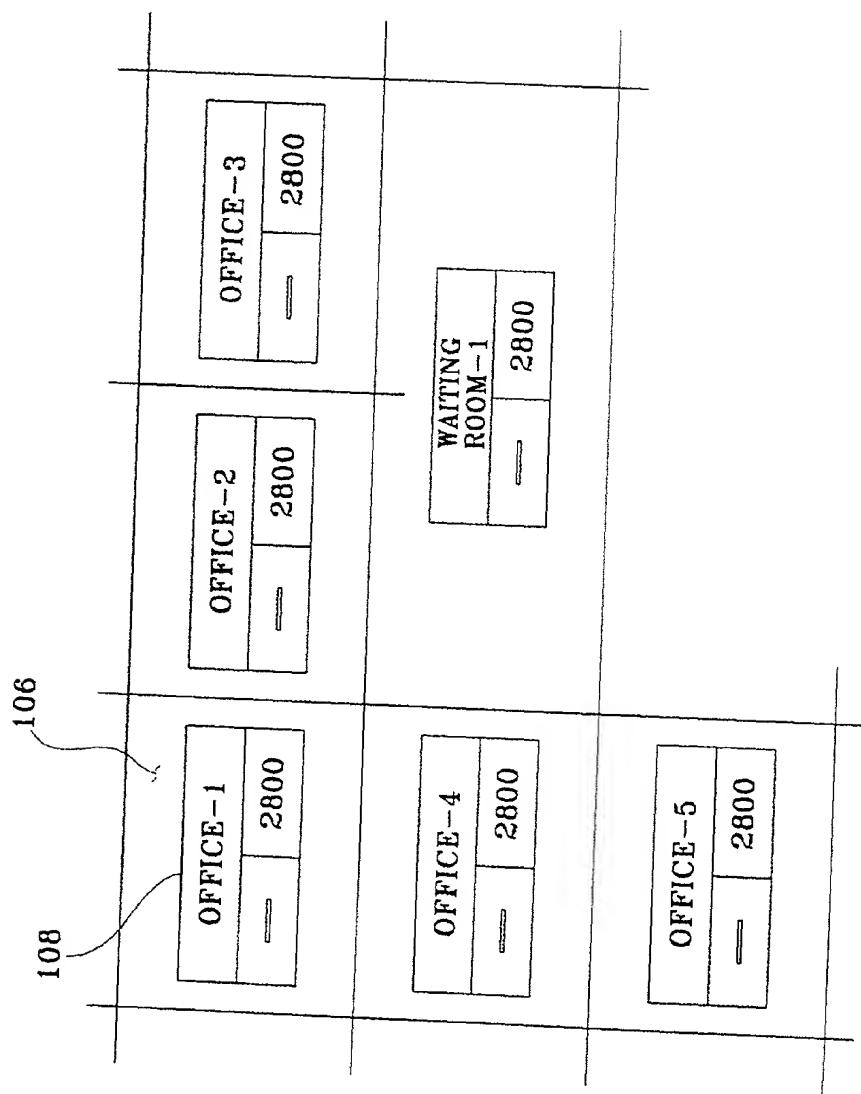


FIG. 3c

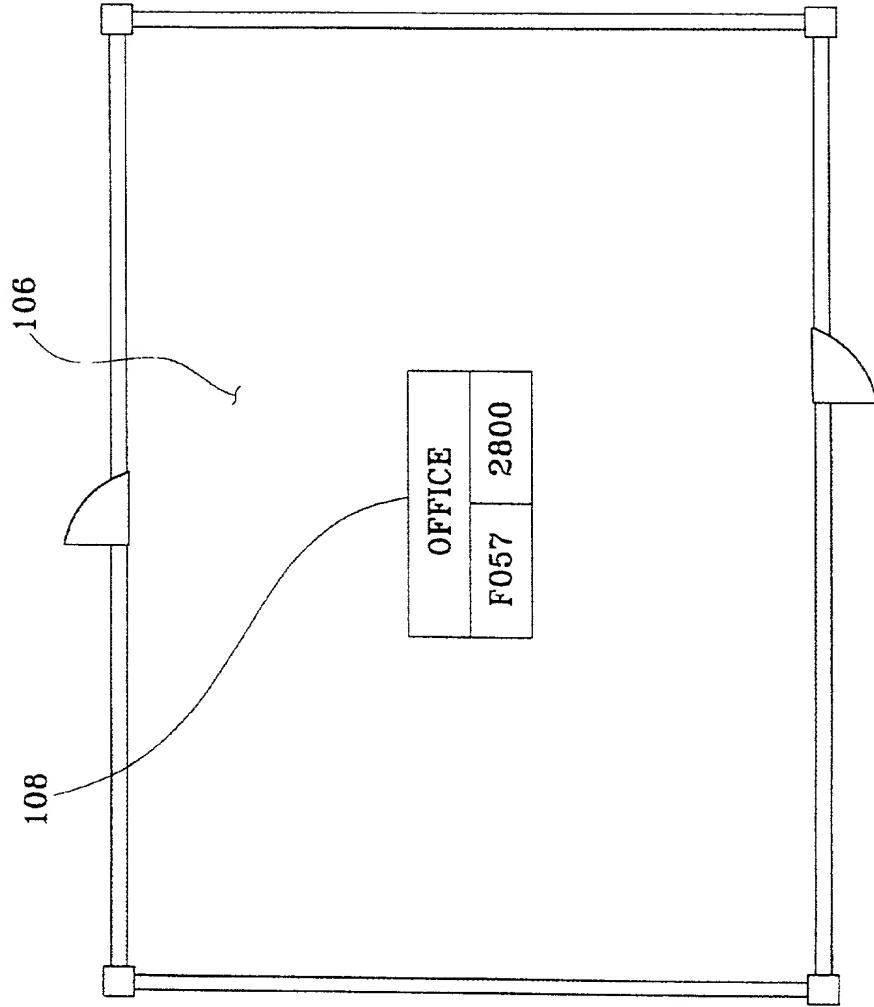


FIG.4

```

1 (defun Room_xdata ( rm_list @bl @opto @han
2   / ed xd rm_name_ rm_numb_ rm_finish_ rm_area_rm_ceheig)
3   ( regapp "POINTS"
4     ( setq rm_name_ (nth 0 rm_list) ) ;1. ROOM NAME
5     rm_numb_ (nth 1 rm_list) ;2. ROOM NUMBER
6     rm_finish_ (nth 2 rm_list) ;3. FINISH NUMBER
7     rm_area_ (nth 3 rm_list) ;4. AREA
8     rm_ceheig_ (nth 4 rm_list) ;5. CEILING HEIGHT
9   )
10  ( if (= rm_finish_ "-") (setq rm_finish_ ""))
11  (setq xd (list-3 (list "POINTS"
12    (cons 1000 rm_name_ ) ;1. ROOM NAME
13    (cons 1000 rm_numb_ ) ;2. ROOM NUMBER
14    (cons 1000 "") ) ;3. FLOOR INTERSECTION
15    (cons 1000 rm_finish_ ) ;4. FINISH NUMBER
16    (cons 1000 rm_area_ ) ;5. FLOOR AREA
17    (cons 1000 "") ) ;6. HEIGHT OF SKIRTING BOARD
18    (cons 1000 rm_ceheig_ ) ;7. CEILING HEIGHT
19    (cons 1013 @pt0) ) ;8. ROOM CODE xy COORDINATE(original point)
20    (cons 1011 @pt0) ) ;9. ROOM CODE xy COORDINATE
21    (cons 1000 @han) ) ;10. HANDLE
22    (cons 1000 "") ) ;11. POSITION OF DRAWING
23    (cons 1000 "") ) ;12. HANDLE VALUE OF ROOM-INTERSECTING POLYLINE
24  ) )
25  (setq ed (entget @bl)) ) ;Entity list of block
26  (setq ed (append ed (list xd)) ) ;Update Entity list of block
27  (entmod ed) ) ;Combine xdata POINT with entity list of block
28 ) : DEFUN

```

FIG.5

ROOM NUMBER : F1 0004 ROOM NAME : OFFICE -4					
ROOM SHAPE AND PLANIMETER	BUILDING ELEMENT	ITEM NAME	SPECIFICATION	UNIT	QUANTITY
1/500	WALL [sw-1]3.60=1.80x2.00	WATER-BASED PAINT	INNER WALL THREE TIMES	M2	37.55 19.57x2.70-(sw-1)
	CONCRETE SURFACE TREATING	INNER WALL	M2	37.55 19.57x2.70-(sw-1)	
1/200	CEMENT MORTAR	FLOOR 24MM DELUXE TILE	FLOOR 24MM 2.5x300x300	M2	22.42 TA 22.42 TA
	CEILING AL MOLDING	M - BAR	M	19.57	TL
	LIGHT-WEIGHT STEEL FRAME		M2	22.42	TA

FIG. 6a

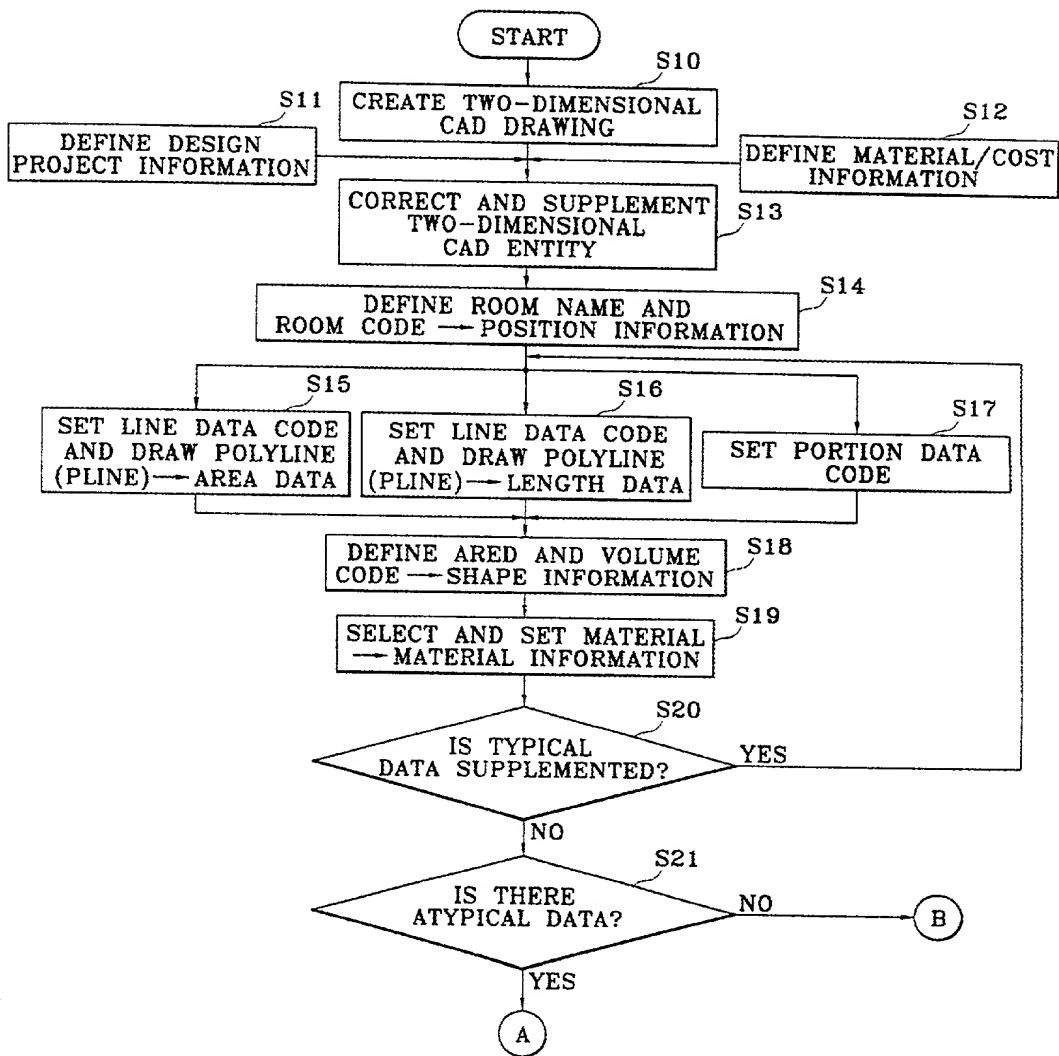


FIG. 6b

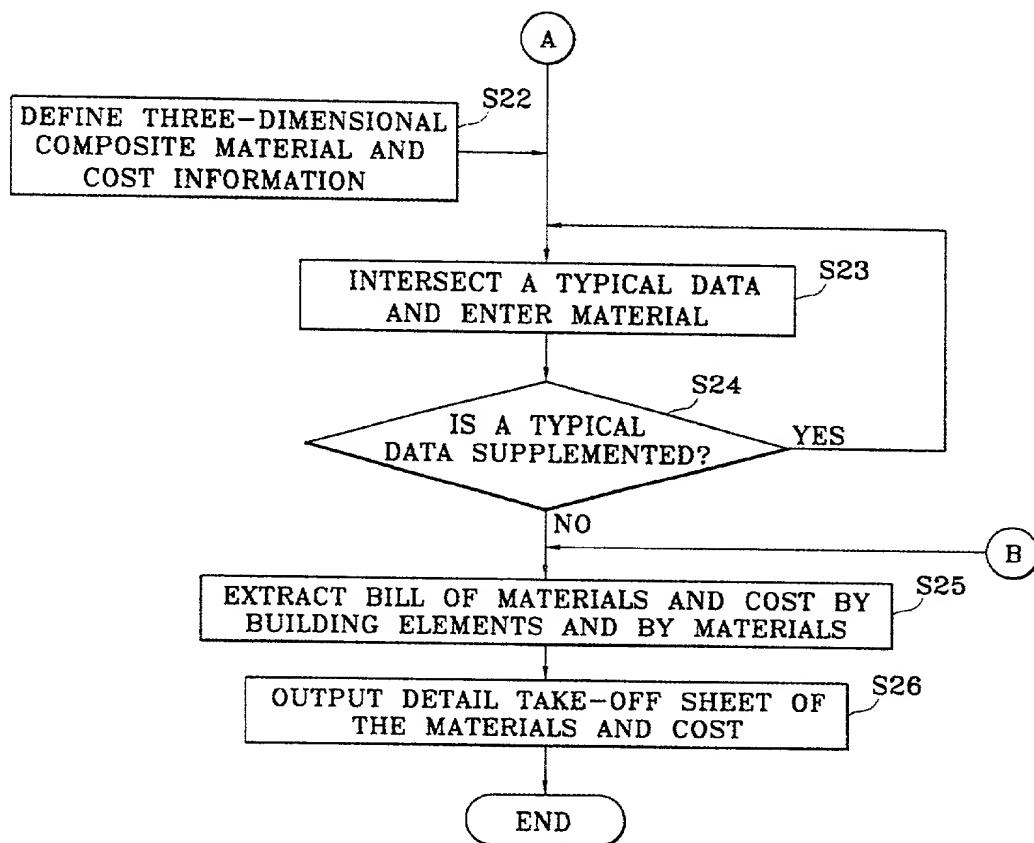


FIG.7

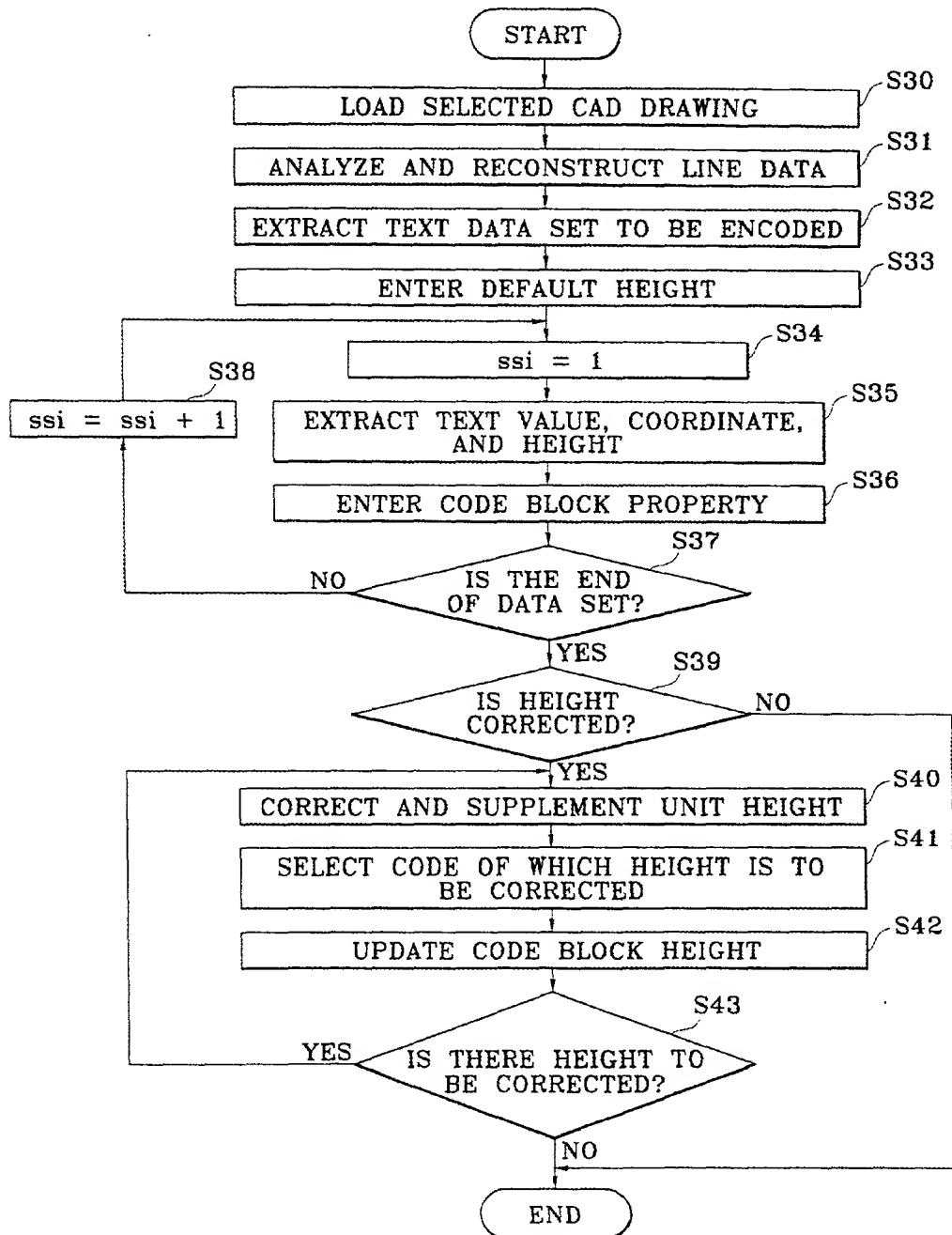


FIG. 8a

READ EXTERNAL DATA

READ RESOURCE READ LOW PRICE STRUCTURE TEXT-DISCRIMINATOR DISCRIMINATE TEXT-BY-FILE

DB FILE SELECTED UNIT COST CODE TYPE

CLASSIFICATION ITEM NAME SPECIFICATION UNIT

TABLE TABLE

STORE CLOSE

CLASSIFICATION	ITEM NAME	SPECIFICATION	UNIT	COST	ITEM	MATERIAL	LABOR	EXPENSES	THE SUM TOTAL
UNIT COST1									M+L+E
UNIT COST2									M+L+E
UNIT COST3									M+L+E
UNIT COST4									M+L+E
UNIT COST5									M+L+E
UNIT COST6									M+L+E
UNIT COST7									M+L+E
UNIT COST8									M+L+E
USER UNIT COST									M+L+E

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FIG. 8b

Merchant & Gould P.C.
Inventor: JUNG
Deccer No.: 12109,42US01
Title: SYSTEM AND METHOD FOR TAKE-OFF OF MATERIALS USING TWO-DIMENSIONAL
CAD INTERFACE
Address: 336-4722
Phone No.: 612-336-4722
Name: Curtis B. Harre
Sheet 12 of 17

<input type="checkbox"/> SEND OUT RESOURCE	<input type="checkbox"/> SEND OUT LOW PRICE
<input type="checkbox"/> CODE TYPE	<input type="checkbox"/> DISCRIMINATOR
<input type="checkbox"/> ENTER T IN DISCRIMINATING TAB KEY	<input type="checkbox"/> STORE
<input type="checkbox"/> CLOSE	

SELECT DATA TO BE STORED

<input type="checkbox"/> CODE	<input type="checkbox"/> ITEM NAME
<input type="checkbox"/> SPECIFICATION	<input type="checkbox"/> UNIT
<input type="checkbox"/> UNIT COST1	<input type="checkbox"/> UNIT COST2
<input type="checkbox"/> UNIT COST3	<input type="checkbox"/> UNIT COST4
<input type="checkbox"/> UNIT COST5	<input type="checkbox"/> UNIT COST6
<input type="checkbox"/> UNIT COST7	<input type="checkbox"/> UNIT COST8
<input type="checkbox"/> USER UNIT COST	

FIG. 8c

CONSTRUCTION TYPE MANAGEMENT

	CODE OF CONSTRUCTION TYPE	NAME OF CONSTRUCTION TYPE
1	A	COMMON TEMPORARY WORK
2	B	TEMPORARY WORK
3	C	SOIL WORK
4	D	STEEL-REINFORCED CONCRETE
5	E	STEEL FRAMING
6	F	MASONRY CONSTRUCTION
7	G	WATERPROOF WORK
8	H	TLING
9	I	STONE WORK
10	J	WOOD WORK
11	K	METAL WORK

ENTER NEW TYPE OF CONSTRUCTION

CODE OF CONSTRUCTION TYPE

NAME OF CONSTRUCTION TYPE

STORE

DELETE

SELECT

UNDO

FIG.9

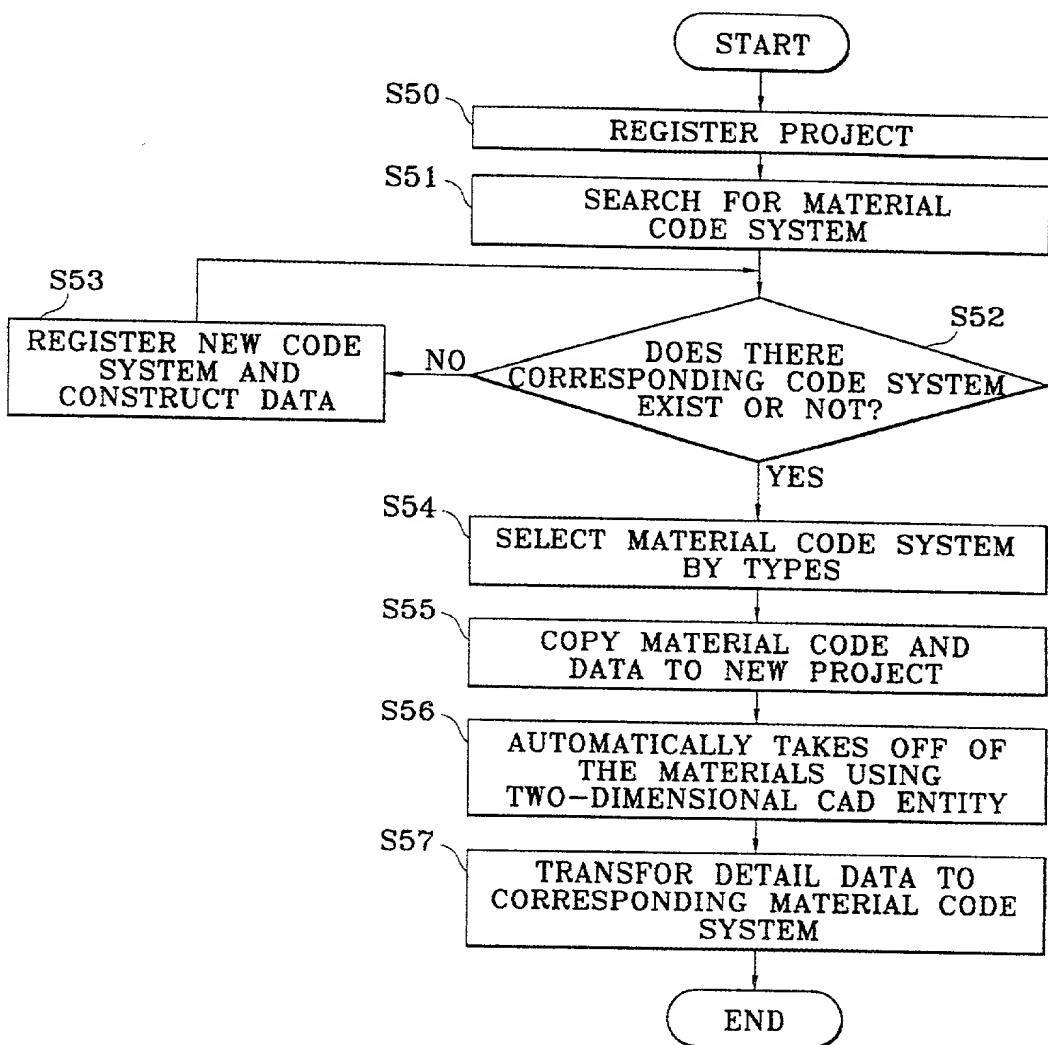
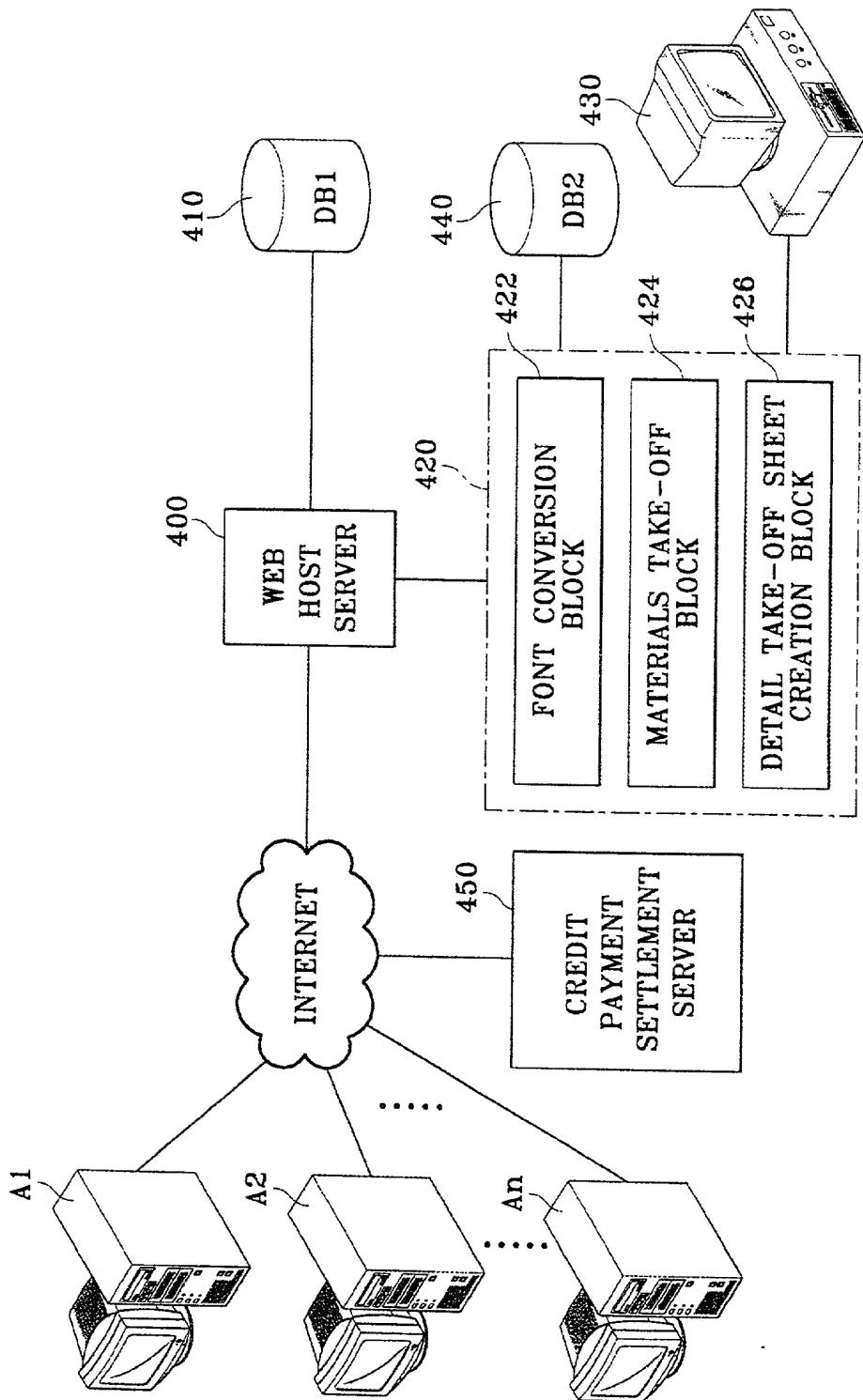


FIG. 10



Sheet 15 of 17
 Phone No.: 612-336-4722
 Inventor: JUNG
 Drawing No.: 1210420501
 Title: SYSTEM AND METHOD FOR TAKE-OFF OF MATERIALS USING TWO-DIMENSIONAL CAD
 Description: A system and method for take-off of materials using two-dimensional CAD. The system includes a host computer connected to a database and a client computer connected to the host computer via a network. The host computer performs material take-off and settlement calculations, and the client computer displays the results. The system can be used for various industries such as construction, engineering, and manufacturing.

FIG. 11

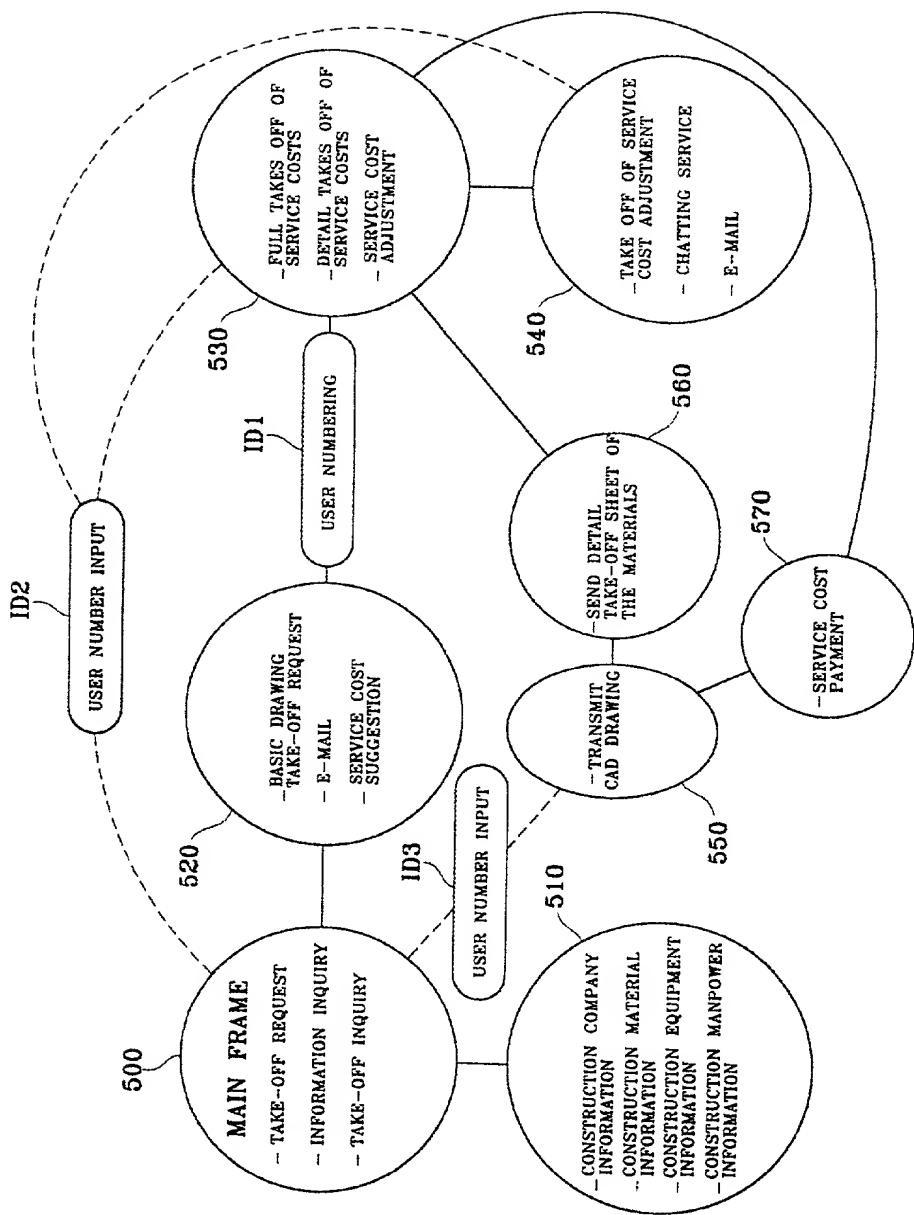


FIG.12

